SUITABILITY OF JATROPHA OIL AS SURFACTANT IN STEAM ASSISTED RECOVERY OF NIGERIA BITUMEN.

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Abstract: More ways to improve the normal high rates of steam assisted bitumen recovery techniques such as SAGD (Steam assisted gravity drainage) and CSS (Cyclic steam simulation) have been studied for some years now, and It has been discovered that the addition of surfactants on ore or injecting it with steam has recovered more bitumen than the injection of the typical steam, but due to the cost and reduction in availability of petro surfactants feed stock and the food competition created by using an edible feedstock for biodiesel surfactant there is need for the use of an alternative feedstock for biodiesel surfactants. In this project, the focus is on the use of jatropha oil (a non-edible feedstock) for biodiesel surfactant production was proposed. The paper features series of experiments that were carried out to compare the strength of extraction of bitumen from tar sands using steam from water and steam or vapor from biodiesel (jatropha biodiesel) water mixture after spraying the core with biodiesel and finally toluene. The core was modified from the tar sand gotten from Imeri village in the southwestern part of Nigeria. The samples treated with biodiesel had better and improved recovery than the one with just steam from water, while toluene gives the over-all best recovery.